

# The Sigmoid Colon in Zambians

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## SUMMARY

Four variables were measured in the sigmoid colon of 103 Zambians (73 men).

The mean results were as follows:- Length 32.9cm (men), 29.5cm (women); height of mesentery 8.2cm in both sexes; length of attachment of the mesentery was 10.3cm (men), 10.8cm (women) and thickness 3.0mm in both sexes. The findings are inconclusive throwing no light on the aetiology of sigmoid volvulus.

## INTRODUCTION

Volvulus of the sigmoid colon is common among Zambians where it is the commonest cause of large gut obstruction (Subramanian and Wosornu 1979). The aetiology is unknown, but there are various theories and Hall-Griggs (1960) thinks that the anatomical peculiarities, diet and the way of feeding play a role.

In the present study, four anatomical variables in the sigmoid colon of Zambians have been measured.

## MATERIAL AND METHOD

One hundred and three cadavers, (73 men and 30 women) were dissected in the University Teaching Hospital (UTH) Mortuary, Lusaka. Most were bodies from road traffic accidents.

The following definitions were used: 1. Height of mesentery, AB 2. Length of attachment, CD (Fig. 1). 3. The length of the sigmoid colon was measured from the place where it was fixed to the iliac fossa, to the third sacral vertebra. Thickness of the mesentery was measured at the point E (Fig. 1). A pair of callipers was employed.

## RESULTS AND DISCUSSION

Table 1 summarises our results. In table 2, comparative figures for Uganda and Bulgaria are given.

### Length of the Sigmoid Colon

In Zambians, the mean was 32.9cm for men and 29.5cm for women. Comparative figures for the the Buganda tribe, Uganda, and for Bulgarians in

FIG. I

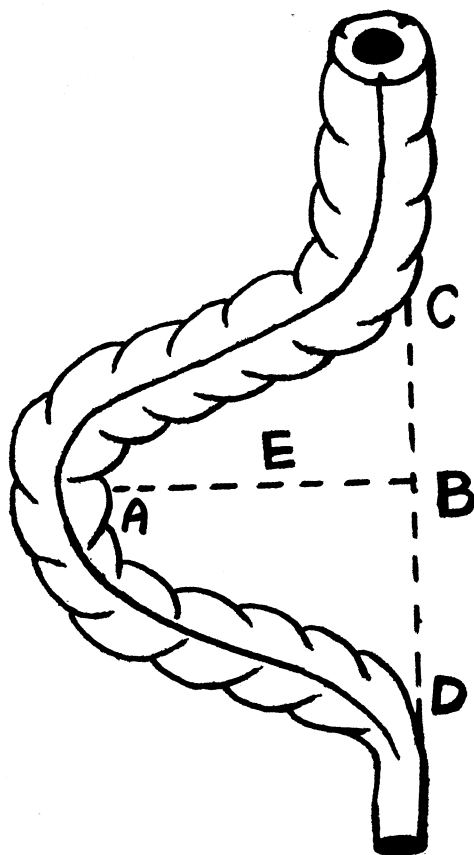


TABLE I

### SUMMARY OF RESULTS

SEX	LENGTH* OF SIGMOID COLON		HEIGHT		MESENTERY* LENGTH		THICKNESS	
	Range	Mean	Range	Mean	Range	Mean	Range	Mean
Men	16-62	32.9	3-19	8.2	3-28	10.3	0.1-0.8	0.3
Women	18-54	29.5	3-14	8.2	3-24	10.8	0.1-0.6	0.3

\*UNIT OF MEASUREMENT = CM.

TABLE II

COMPARISON OF ZAMBIAN, UGANDAN & BULGARIAN FIGURES						
	No. of Cases	Sex	Length Sigmoid Colon	Height	Length	Thickness
Lusaka, Zambia	73	Male	32.9	8.2	10.3	0.3
	30	Female	29.5	8.2	10.8	0.3
Plovdiv, Bulgaria	51	Male	41.7	7.6	7.6	0.7
	48	Female	40.5	8.1	8.7	1.3
Tribe of Baganda Uganda	40	Male	50.8	10.1	5.9	0.2
	44	Female	46.7	10.7	6.3	0.3

Plovdiv are also given. No statistical analysis are warranted.

Anson (1966) and Warwick and Williams (1973) give the mean Length as 40cm.

### Height of Mesentery

Surgeons are of the opinion that the height of the mesentery, (Line AB, Fig. 1) is the most important anatomical factor for volvulus – the greater the height of the mesentery, the higher the incidence. According to Anson (1966) it ranges from 3 - 9cm; it was from 3 - 19cm in Zambians. The mean for Baganda tribesmen was 10.1cm.

### Length of Attachment of the Mesentery

It is alleged that the shorter the attachment of the mesentery, the higher is the possibility for volvulus (Hall-Griggs, 1960).

In Zambian men the mean length of attachment was 10.3cm; it was 5.9cm for Baganda tribesmen.

### Thickness of Mesentery

It would appear that compared with the Bulgarians, Zambians have thinner mesentery.

### Dilatations of the Sigmoid Colon

In 31 cases (30.0%) big sac-like dilatations were found. The lumen of the gut at the sites of the dilatation was about 3 - 4 times wider than the rest, and the wall of the dilated part was thicker. Such dilatations were found in Ugandans but not in Bulgarians. Their role in the aetiology of volvulus is not known.

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